CLAIMS

1. A telecommunications system for communicating a Short Message Service (SMS) message to a user equipment using a subscriber identity number terminating on an Internet Protocol network using an Internet Protocol (IP), the system comprising a short message service centre (SM-SC), a gateway mobile switching centre (GMSC) of an SMS network for communicating SMS messages, an Internet Protocol/SMS (IP/SMS) gateway for communicating between the SMS network and the IP network and a home location database (HLR/HSS) for maintaining address data identifying a current location of a user equipment, the gateway mobile switching centre being operable

in response to the SMS message received from the short message service centre to interrogate the home location database for an address to which the SMS message should be sent, the home location database being operable to provide the gateway mobile switching centre with an address of the IP/SMS gateway stored in association with the subscriber identity number, the gateway switching centre being operable

to send the SMS message to the IP/SMS gateway, the IP/SMS gateway being operable to retrieve an Internet Protocol address corresponding to the subscriber identity number stored in an IP/SMS database associated with the IP/SMS gateway, and

to communicate the SMS message to the user equipment at the retrieved IP address via the IP network, wherein the IP network includes an authentication server which is operable to determine the IP/SMS gateway address from the IP network via which the user equipment is communicating, and to communicate the IP/SMS gateway address to the home location database, the IP/SMS gateway address being stored in the home location database in association with the subscriber identity number for retrieval by the gateway mobile switching centre in response to the received SMS message.

2. A system as claimed in Claim 1, wherein the authentication server is operable to determine the IP address of the user equipment when communicating via the IP network, and to communicate the IP address of the user equipment to the

IP/SMS gateway for storing in the IP/SMS database associated with the IP/SMS gateway for retrieval by the IP/SMS gateway in response to the received SMS message.

3. A system as claimed in Claim 1 or 2, wherein the home location database is arranged to set for at least the subscriber identity number of the user equipment, a flag indicative of whether the user equipment is currently communicating via the IP network, the address of the IP/SMS gateway to which SMS messages should be sent being stored in association with the flag.

4. A system as claimed in Claim 3, wherein the authentication server is operable to set the flag in the home location database to indicate that the user equipment is currently communicating via the IP terminated network, and if not set to indicate that the SMS message should be communicated via a serving support node of a cellular mobile radio network for delivery to the user equipment.

5. A home location database for maintaining address data identifying a current location of a user equipment, the address data providing an address to which an SMS message addressed to the user equipment at a subscriber identity number should be sent, wherein the home location database is arranged to provide a gateway mobile switching centre with an address of an IP/SMS gateway for communicating the SMS message to the user equipment at the subscriber identity number, when the user equipment is communicating via an Internet Protocol (IP) network using an Internet Protocol, communication being terminated on the IP network, the home location database being arranged to store for at least the subscriber identity number of the user equipment, a flag indicative of whether the user equipment is currently communicating via the IP network, and if the flag is set to indicate that the user equipment is currently communicating via the IP network, an address of the IP/SMS gateway to which SMS messages should be sent.

6. A method of communicating a Short Message Service (SMS) message to a user equipment using a subscriber identity number terminating on an Internet Protocol (IP) network using an Internet Protocol (IP), the method comprising

maintaining address data identifying a current location of the user equipment in a home location database,

receiving the SMS message at a gateway mobile switching centre (GMSC) of an SMS network for communicating the SMS message,

providing, to the gateway mobile switching centre, from the home location database an address of an Internet Protocol/SMS gateway for communicating between the SMS network and the IP network,

sending the SMS message to the IP/SMS gateway,

retrieving the IP address corresponding to the subscriber identity number from an IP/SMS database associated with the IP/SMS gateway, and

communicating the SMS message to the user equipment at the retrieved IP address via the IP network, wherein the maintaining the address data comprises

determining the IP/SMS gateway address from the IP network via which the user equipment is communicating,

communicating the IP/SMS gateway address to the home location database, and

storing the IP/SMS gateway address in the home location database in association with the subscriber identity number for retrieval in response to the received SMS message.

7. A method as claimed in Claim 6, the method comprising

determining the IP address of the user equipment when communicating via the IP network,

communicating the IP address of the user equipment to the IP/SMS gateway, and

storing the IP address of the user equipment in an IP/SMS database associated with the IP/SMS gateway, the IP address being stored in association with the subscriber identity number for retrieval in response to the received SMS message.

8. A method as claimed in Claim 6 or 7, comprising

setting a flag in the home location database

for at least the subscriber identity number of the user equipment, the flag being indicative of whether the user equipment is currently communicating via the IP network, the address of the IP/SMS gateway to which SMS messages should be sent being stored in association with the flag.

9. A method as claimed in Claim 8, comprising

setting the flag in the home location database to indicate that the user equipment is currently communicating via the IP terminated network, and

not setting the flag to indicate that the SMS message should be communicated via a serving support node of a cellular mobile radio network for delivery to the user equipment.

10. A telecommunications system for communicating a Short Message Service (SMS) message to a user equipment using a subscriber identity number terminating on an Internet Protocol (IP) network using an Internet Protocol (IP), the system comprising

means for maintaining address data identifying a current location of the user equipment in a home location database,

means for receiving the SMS message at a gateway mobile switching centre (GMSC) of an SMS network for communicating the SMS message,

means for providing, to the gateway mobile switching centre, from the home location database an address of an Internet Protocol/SMS gateway for communicating between the SMS network and the IP network,

means for sending the SMS message to the IP/SMS gateway,

means for retrieving the IP address corresponding to the subscriber identity number from an IP/SMS database associated with the IP/SMS gateway, and

means for communicating the SMS message to the user equipment at the retrieved IP address via the IP network, wherein the means for maintaining the address data comprises

means for determining the IP/SMS gateway address from the IP network via which the user equipment is communicating,

means for communicating the IP/SMS gateway address to the home location database, and

means for storing the IP/SMS gateway address in the home location database in association with the subscriber identity number for retrieval in response to the received SMS message.

11. A telecommunications system as claimed in Claim 10, comprising

means for determining an Internet Protocol (IP) address of the user equipment when communicating via the IP network,

means for communicating the IP address of the user equipment to an IP/SMS gateway, and

means for storing the IP address of the user equipment in the IP/SMS database associated with the IP/SMS gateway, the IP address being stored in association with the subscriber identity number, for retrieval in response to the SMS message.

12. A telecommunications system as claimed in Claim 10 or 11, comprising means for setting a flag in the home location database for at least the subscriber identity number of the user equipment, a flag indicative of whether the user equipment is currently communicating via the IP network, the address of the IP/SMS gateway to which SMS messages should be sent being stored in association with the flag.

13. A telecommunications system, a home location database and an internet Protocol/SMS (IP/SMS) gateway substantially as herein before described with reference to Figures 2, 3 and 4 of the accompanying drawings.

14. A method of communicating a Short Message Service (SMS) message substantially as herein before described with reference to Figures 2, 3 and 4 of the accompanying drawings.